LISTING OF CLAIMS

This listing of clams will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A semiconductor structure comprising:

a non-single-crystal semiconductor film including a single-crystal grain in which a channel region for an active device[[,]] is located; and

a support substrate that supports the non-single-crystal semiconductor film, the channel region having an oxygen concentration ~~not higher than 1×10^{18} atoms/cm^3~~ and a carbon concentration each no ~~not~~ higher than 1×10^{18} atoms/cm^3.

2. (Currently Amended) The semiconductor structure according to claim 1, wherein each of the oxygen concentration and the carbon concentration is ~~not~~ no higher than 5×10^{17} atoms/cm^3.

3. (Currently Amended) The semiconductor structure according to claim 1, wherein the channel region includes a metal element ~~with~~ having a concentration ~~not~~ no higher than 1×10^{17} atoms/cm^3.

4. (Currently Amended) The semiconductor structure according to claim 3, wherein the concentration of the metal element is ~~not~~ no higher than 5×10^{16} atoms/cm^3.

5. (Withdrawn) A manufacturing method for a semiconductor structure having a non-single-crystal semiconductor film including a channel region for an active device, and a support substrate that supports the non-single-crystal semiconductor film, the method

comprising subjecting an inner wall of a film-forming chamber to a surface etching process with a fluorine-based gas, coating the inner wall with an amorphous semiconductor film with a thickness of 50 to 1000 nm, placing the support substrate in the film-forming chamber and forming the non-single-crystal semiconductor film, and melting and recrystallizing the non-single-crystal semiconductor film by heating.

6. (Withdrawn) The manufacturing method according to claim 5, further comprising subjecting the inner wall to a baking process in a temperature range of 80 to 150□.

7. (Withdrawn) The manufacturing method according to claim 5, wherein energy light is radiated to heat the non-single-crystal semiconductor film.

8. (Withdrawn) The manufacturing method according to claim 5, wherein the non-single-crystal semiconductor film is heated for a heating time of 10 seconds or less at a heating place.

9. (Withdrawn) The manufacturing method according to claim 7, wherein the heating time is one second or less.

10. (Withdrawn) A manufacturing apparatus for a semiconductor structure having a non-single-crystal semiconductor film including a channel region for an active device, and a support substrate that supports the non-single-crystal semiconductor film, the apparatus comprising a film-forming unit that accommodates the support substrate in a film-forming chamber and forms the non-single-crystal semiconductor film, and a crystallizing unit that

melts and recrystallizes the non-single-crystal semiconductor film, the film-forming chamber having an inner wall formed of a metal containing aluminum.

11. (Withdrawn) The manufacturing apparatus according to claim 10, wherein a surface of the inner wall includes fluorine atoms and is coated with an amorphous semiconductor film with a thickness of 50 to 1000 nm.

12. (Currently Amended) A semiconductor device comprising:

a non-single-crystal semiconductor film, a support substrate that supports the non-single-crystal semiconductor film[[,]]; and

an active device having a channel region located within a single-crystal grain ~~a part~~ of the non-single-crystal semiconductor film ~~as a channel region~~[[,]] the channel region having an oxygen concentration ~~not higher than 1×10^{18} atoms/cm^3~~ and a carbon concentration ~~not~~ each no higher than 1×10^{18} atoms/cm^3.

13. (Original) The semiconductor device according to claim 12, wherein the active device is a thin-film transistor including source and drain regions disposed on both sides of the channel region in the non-single-crystal semiconductor film, and a gate electrode layer insulated from the channel region by an insulation film.

14. (Currently Amended) The semiconductor device according to claim 13, wherein the ~~channel region is located within a~~ single-crystal grain ~~that~~ has a ~~growth~~ direction of growth coinciding with a direction of arrangement of the source and drain regions.

15. (Currently Amended) The semiconductor device according to claim 12, wherein each of the oxygen concentration and the carbon concentration is ~~not~~ no higher than 5×10^{17} atoms/cm^3.

16. (Currently Amended) The semiconductor device according to claim 12, wherein the non-single-crystal semiconductor film includes a metal element with a concentration ~~not~~ no higher than 1×10^{17} atoms/cm^3.

17. (Currently Amended) The semiconductor device according to claim ~~16~~12, wherein the non-single-crystal semiconductor film includes a ~~concentration of the~~ metal element ~~is not~~ having a concentration no higher than 5×10^{16} atoms/cm^3.

18. (Currently Amended) A semiconductor device comprising:

a non-single-crystal semiconductor film[[,]];

a support substrate that supports the non-single-crystal semiconductor film[[,]]; and

an active device having ~~a part~~ a channel region located within a single-crystal grain of the non-single-crystal semiconductor film ~~as a channel region~~, the channel region having an oxygen concentration ~~not~~ no higher than 1×10^{18} atoms/cm^3 and a small stacking fault density ~~not~~ no higher than 1×10^6 cm^{-3}.

19. (Withdrawn) A manufacturing method for a semiconductor device having a non-single-crystal semiconductor film, a support substrate that supports the non-single-crystal semiconductor film, and an active device having a part of the non-single-crystal semiconductor film as a channel region, the method comprising subjecting an inner wall of a film-forming chamber to a surface etching process with a fluorine-based gas, coating the

inner wall with an amorphous semiconductor film with a thickness of 50 to 1000 nm, placing the support substrate in the film-forming chamber and forming the non-single-crystal semiconductor film, and melting and recrystallizing the non-single-crystal semiconductor film, thus forming the active device having the part of the non-single-crystal semiconductor film as the channel region.

20. (New) The semiconductor device according to claim 12, wherein the single-crystal grain has a direction of growth coinciding with a direction of arrangement of the source and drain regions.

21. (New) The semiconductor device according to claim 18, wherein source and drain regions are disposed on both sides of the channel region in the non-single-crystal semiconductor film and the single-crystal grain has a direction of growth coinciding with a direction of arrangement of the source and drain regions.